

Protego[®] SM5 Ultraclean Purifier

Best-in-class, ultraclean purification for IPA and solvents with superior particle retention and metal removal efficiency

Protego[®] IPA and all-in-one purifying filters meet the strict requirements of rigorous impurity control specifications in leading-edge microelectronics fabs. The combination of the latest PTFE membrane and high-capacity IEX media can remove particles and metals with only one device. The extremely clean purifier device is without contamination risk. Our flexible device portfolio can meet all required purification needs – point of use (POU), chemical delivery system (CDS), and bulk chemical manufacturing.

Protego IPA purifiers deliver superior performance with improved yields and fast system start-up, reducing cost of ownership (COO).

APPLICATIONS

- IPA and solvents applications requiring highly efficient metal removal and extreme cleanliness
- Advanced device fabs and bulk chemical manufacturing



FEATURES & BENEFITS

Advanced contamination control media technologies	<p>Most advanced PTFE membrane optimized for IPA and solvents applications</p> <p>Exclusive metal removal layer sustains purification performance for a long time with maximized metal removal capacity</p>
Unique device technology	<p>All-in-one device removes both particles and metals with high efficiency; users can reduce footprint</p> <p>Flexible device portfolio includes small and large disposable, and cartridge designs</p>
Ultraclean purifier	<p>All-fluoropolymer material purifier</p> <p>Tailored clean: Optimized cleaning method enables rapid start-up after installation</p>

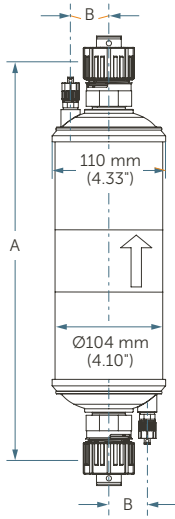
Protego IPA Disposable Filters

SPECIFICATIONS

		CHEM-LINE™ II ATE	P3000	P1500
Materials of construction	Membrane	PTFE		
	Supports, shell	PFA		
Purification capable		Metal removal		
Retention rating		Sub 1 nm		
Fitting size		½" I/O, ¼" V/D Super 300 Type Pillar® fitting	½" I/O, ¼" V/D Super 300 Type Pillar fitting	⅜" I/O, ¼" V/D Super 300 Type Pillar fitting
		¾" I/O, ¼" V/D Super 300 Type Pillar fitting	⅜" I/O, ¼" V/D Super 300 Type Pillar fitting	8 mm I/O, 6 mm V/D Super 300 Type Pillar fitting
		¾" I/O, ½" V/D Super 300 Type Pillar fitting	8 mm I/O, 6 mm V/D Super 300 Type Pillar fitting	8 mm I/O, 6 mm V/D Super Type Pillar fitting
		1" I/O, ½" V/D Super 300 Type Pillar fitting	8 mm I/O, 6 mm V/D Super Type Pillar fitting	⅜" I/O, ¼" V/D Flaretek® fitting
		1" I/O, ¼" V/D Super 300 Type Pillar fitting	⅜" I/O, ¼" V/D Flaretek fitting	—
		¾" I/O, ¼" V/D Flaretek fitting	—	—
		¾" I/O, ½" V/D Flaretek fitting	—	—
		1" I/O, ¼" V/D Flaretek fitting	—	—
Filtration area		1.77 m ²	0.49 m ²	0.20 m ²
Operating conditions	Temperature rating	80°C (176°F)		
	Maximum operating pressure	0.58 MPa @ 25°C (77°F)		
	Maximum forward differential pressure	0.44 MPa (4.4 bar, 63.8 psid) @ 25°C (77°F)	0.39 MPa (3.9 bar, 56.6 psid) @ 25°C (77°F)	
	Maximum reverse differential pressure	0.29 MPa (2.9 bar, 42.1 psid) @ 25°C (77°F)		
Metallic extractables		Testing conducted for 29 metals		
Other extractables		NVR		

DIMENSIONS

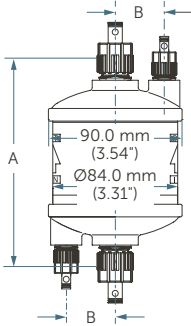
Protego IPA Chem-Line II Disposable Filters



Nominal dimensions

FITTING SIZE		SUPER 300 TYPE PILLAR® FITTINGS		FLARETEK® FITTINGS	
Inlet/ outlet	Vent/ drain	B	A	B	A
1/2"	1/4"	37 mm (1.46")	341 mm (13.41")	—	—
3/4"	1/4"	37 mm (1.46")	350 mm (13.76")	37 mm (1.46")	359 mm (14.13")
3/4"	1/2"	41 mm (1.63")	349 mm (13.74")	41 mm (1.63")	363 mm (14.30")
1"	1/4"	37 mm (1.46")	383 mm (15.07")	37 mm (1.46")	368 mm (14.47")
1"	1/2"	41 mm (1.63")	380 mm (14.97")	—	—

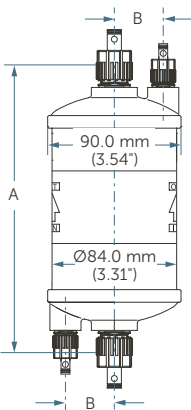
Protego IPA P1500 Disposable Filters



Nominal dimensions

FITTING SIZE		SUPER TYPE PILLAR FITTINGS		SUPER 300 TYPE PILLAR FITTINGS		FLARETEK FITTINGS	
Inlet/ outlet	Vent/ drain	B	A	B	A	B	A
3/8"	1/4"	—	—	31 mm (1.22")	141 mm (5.50")	32 mm (1.26")	165 mm (6.50")
1/2"	1/4"	—	—	31 mm (1.22")	146 mm (5.75")	—	—
8 mm	6 mm	32 mm (1.26")	140 mm (5.51")	31 mm (1.22")	135 mm (5.31")	—	—

Protego IPA P3000 Disposable Filters

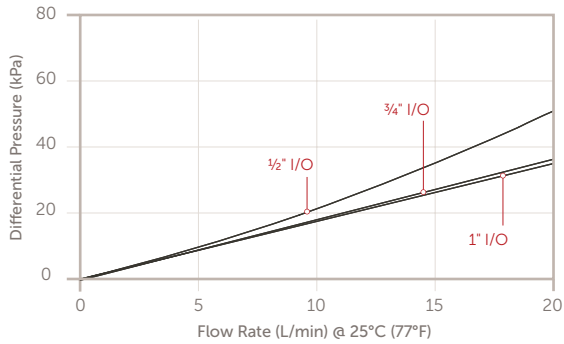


Nominal dimensions

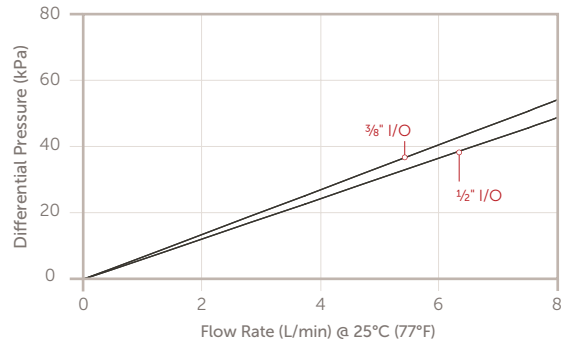
FITTING SIZE		SUPER TYPE PILLAR FITTINGS		SUPER 300 TYPE PILLAR FITTINGS		FLARETEK FITTINGS	
Inlet/ outlet	Vent/ drain	B	A	B	A	B	A
3/8"	1/4"	—	—	31 mm (1.22")	194 mm (7.64")	32 mm (1.26")	200 mm (8.66")
1/2"	1/4"	—	—	31 mm (1.22")	199 mm (7.83")	—	—
8 mm	6 mm	32 mm (1.26")	194 mm (7.64")	31 mm (1.22")	189 mm (7.44")	—	—

PERFORMANCE DATA

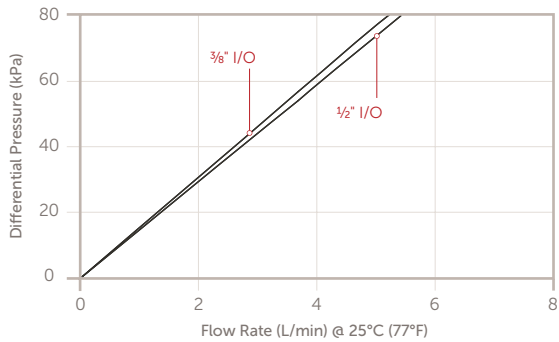
Chem-Line II Disposable Filters



P3000 Disposable Filters



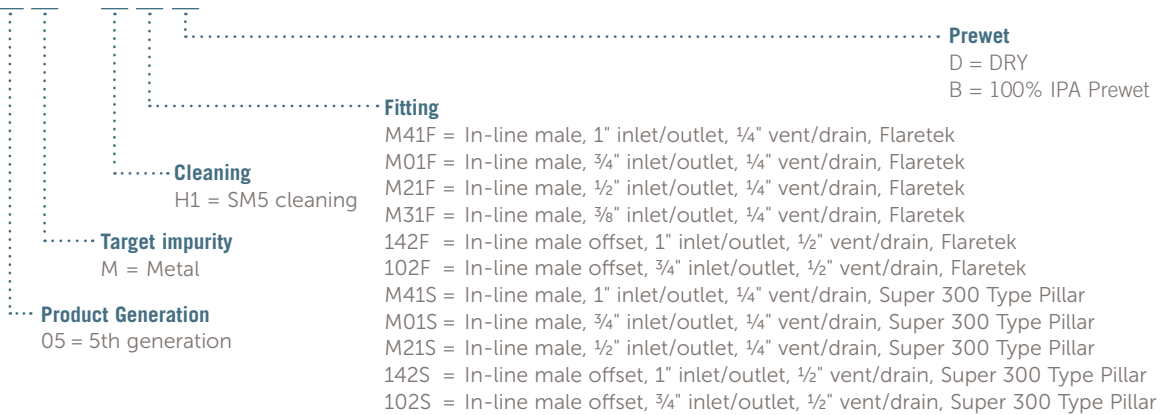
P1500 Disposable Filters



ORDERING INFORMATION

Protego IPA Chem-Line II Disposable Filters: part number

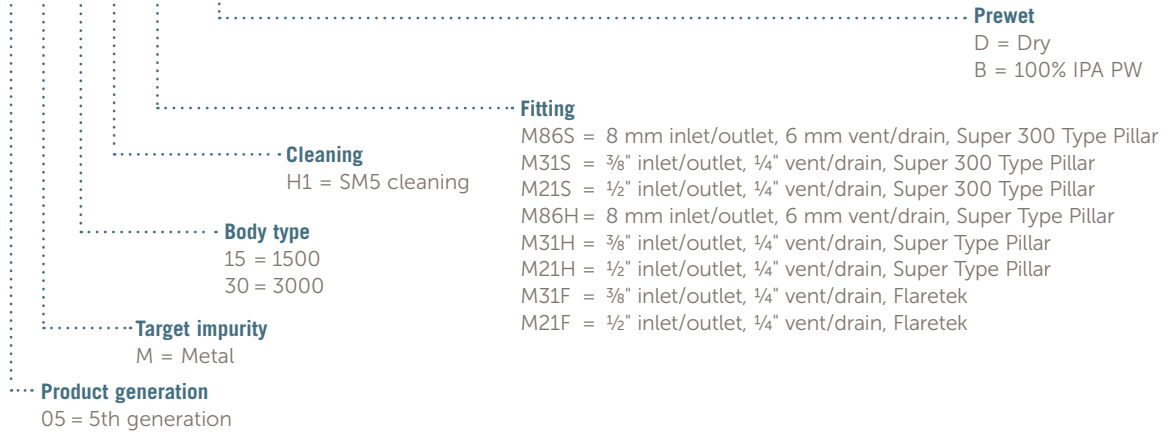
PI2 05 M E 1 H1



ORDERING INFORMATION (CONTINUED)

Protego IPA P1500/P3000 Disposable Filters: part number

PIP 05 M H1

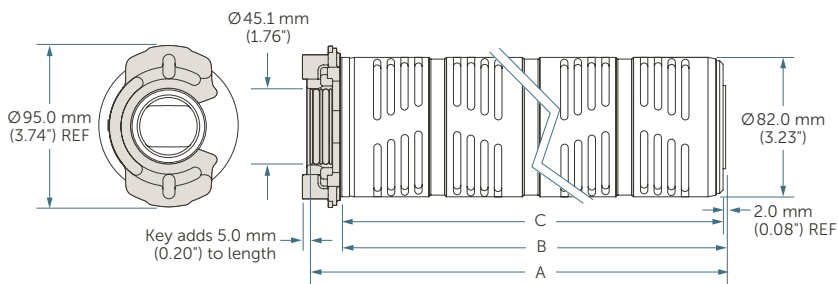


Protego IPA Cartridge Filters

SPECIFICATIONS

	10" CARTRIDGE	20" CARTRIDGE
Materials	Membrane	PTFE
	Supports, core, sleeve, end caps, Chemlock key	PFA
	O-ring	E-FKM, E-ETP, and FFKM
Purification capable	Metal removal	
Retention rating	Sub 1 nm	
Filtration area	1.77 m ²	3.54 m ²
Operation conditions	Temperature rating	80°C (176°F)
	Maximum forward differential pressure	0.44 MPa (4.4 bar, 63.8 psid) @ 25°C (77°F)
	Maximum reverse differential pressure	0.34 MPa (3.4 bar, 49.3 psid) @ 25°C (77°F)
Metallic extractables	Testing conducted for 29 metals	
Other extractables	NVR	

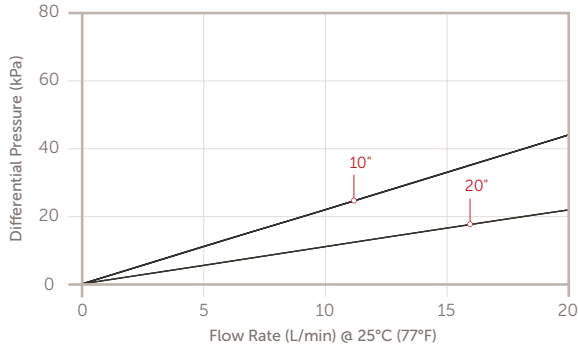
DIMENSIONS



Length	A (overall)	B (control)	C (shoulder)
10"	244.0 mm (9.61")	227.0 mm (8.94")	225.0 mm (8.86")
20"	471.0 mm (18.54")	454.0 mm (17.87")	452.0 mm (17.80")

PERFORMANCE DATA

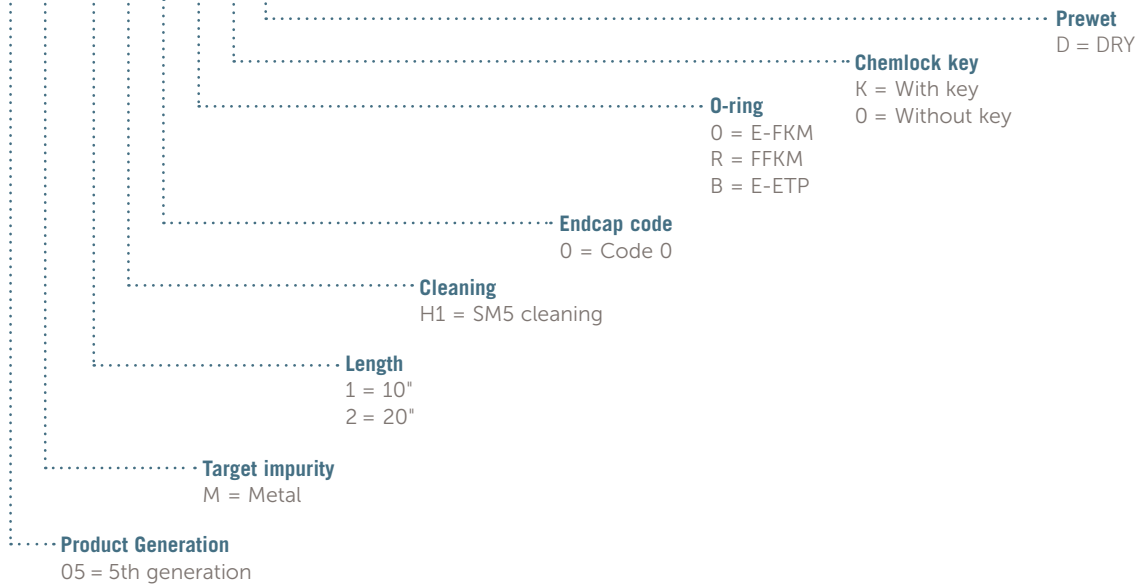
10" Cartridge Filter



ORDERING INFORMATION

Protego IPA Cartridge Filters: part number

PIC 05 M E H1 0 D



FOR MORE INFORMATION

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